
BRAZING TITANIUM TO STAINLESS STEEL USING LAMINATED Ti-Ni FILLER MATERIAL

ABSTRACT

A method of bonding a stainless steel part to a titanium part by heating a component assembly comprised of the titanium part, the stainless steel part, and a laminated titanium-nickel filler material placed between the two parts and heated at a temperature that is less than the melting point of either the stainless steel part or the titanium part. The component assembly is held in intimate contact at temperature in a non-reactive atmosphere for a sufficient time to develop a hermetic and strong bond between the stainless steel part and the titanium part. The bonded component assembly is optionally treated with acid to remove any residual free nickel and nickel salts, to assure a biocompatible component assembly, if implanted in living tissue.